FIG. 1

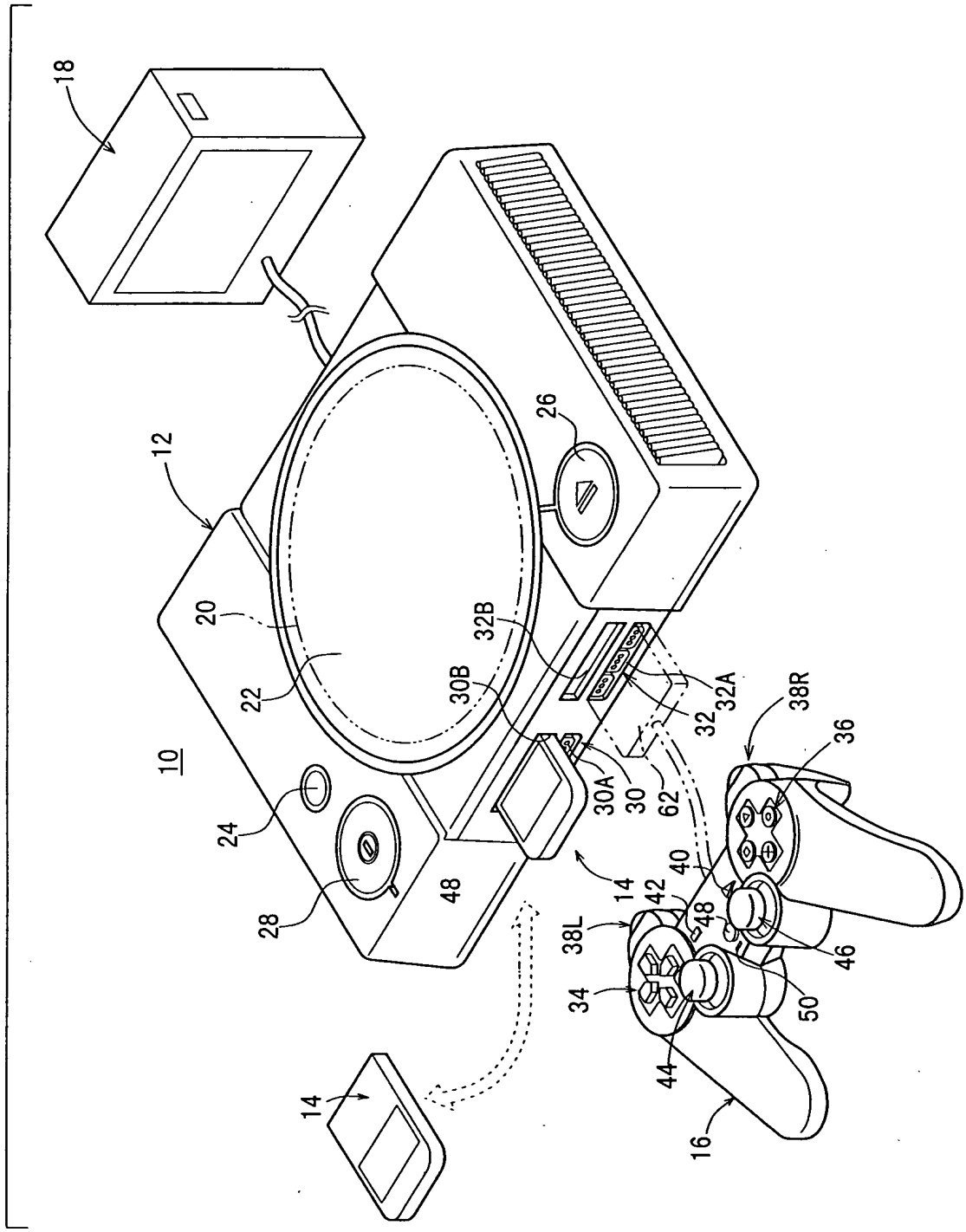

18
12
26
20
22
32B
30B
32A
32
38R
36
10
24
30A
30
62
28
48
14
42
40
38L
48
46
34
50
44
16
14

FIG. 2

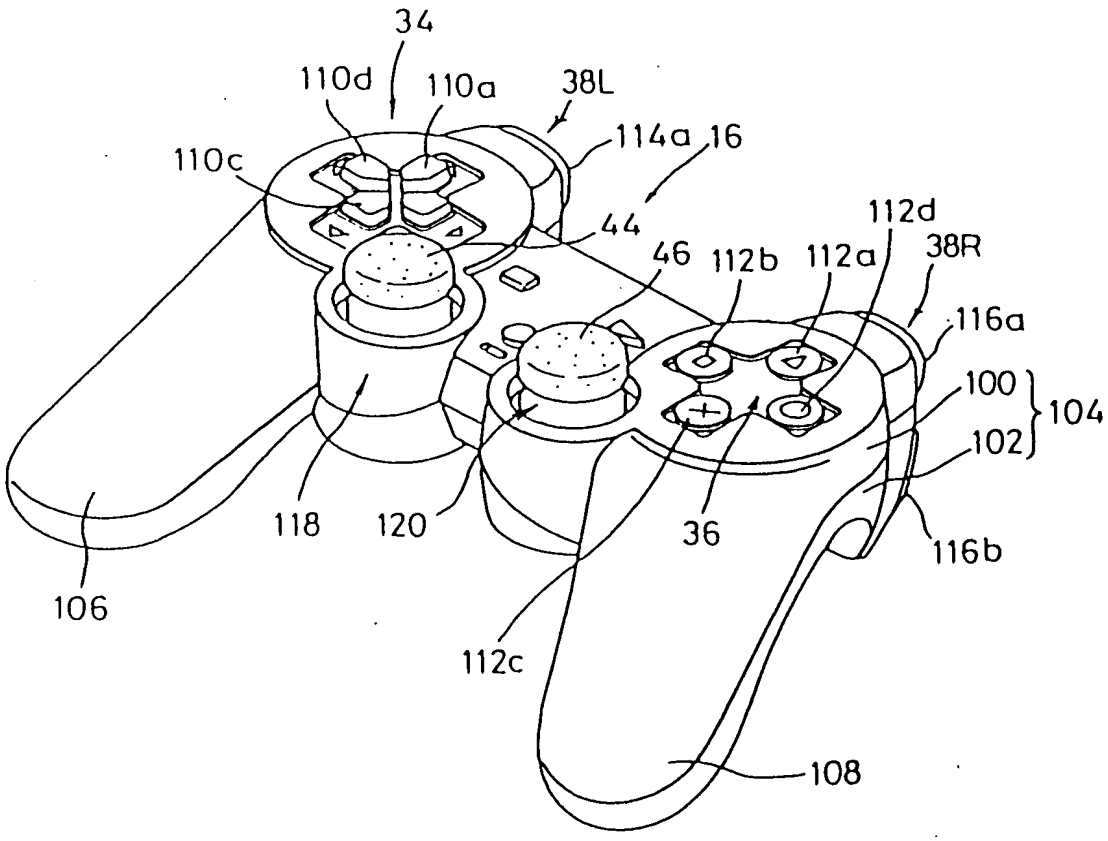

34
110d
110a
38L
114a
16
110c
44
112d
46
112b
112a
38R
116a
100
104
102
118
120
36
116b
106
112c
108

FIG. 3

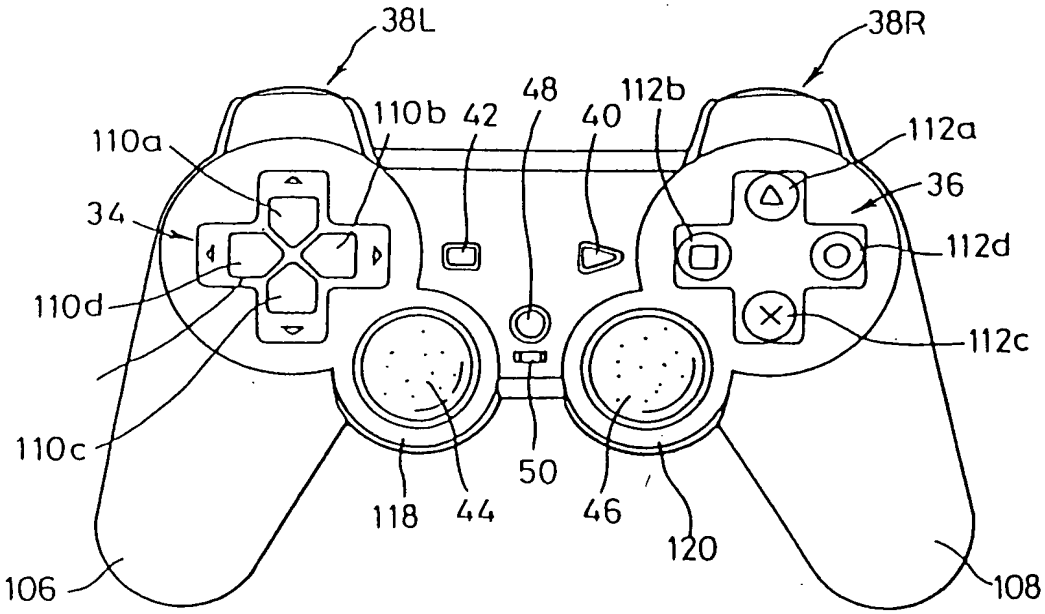

38L
38R
48
112b
110b
42
40
110a
112a
36
34
112d
110d
112c
110c
50
118
44
46
120
106
108

FIG. 4

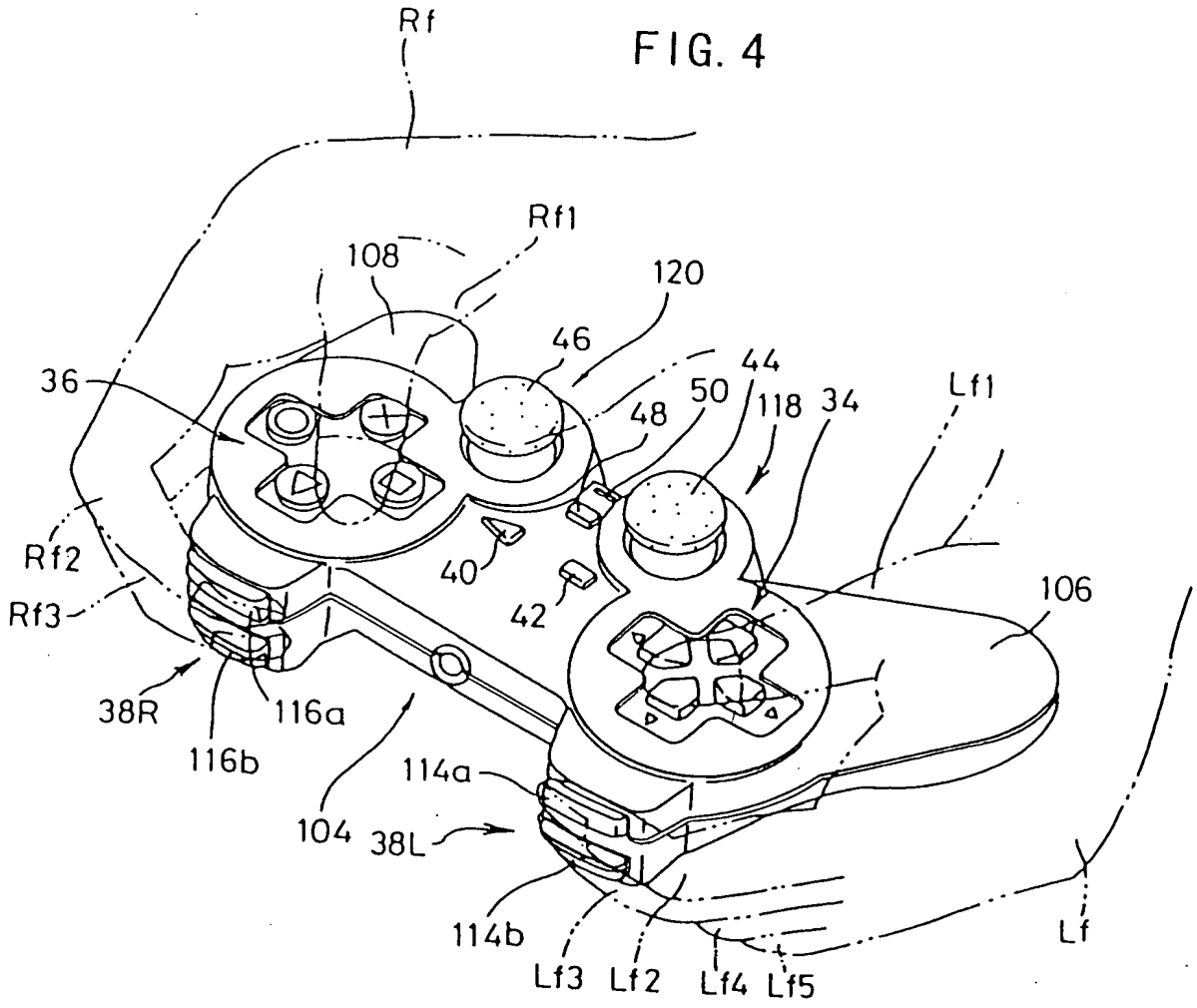

Rf
Rf1
108
120
46
44
36
48
50
118
34
Lf1
Rf2
40
42
106
Rf3
38R
116a
116b
114a
104
38L
114b
Lf3
Lf2
Lf4
Lf5
Lf

FIG. 5

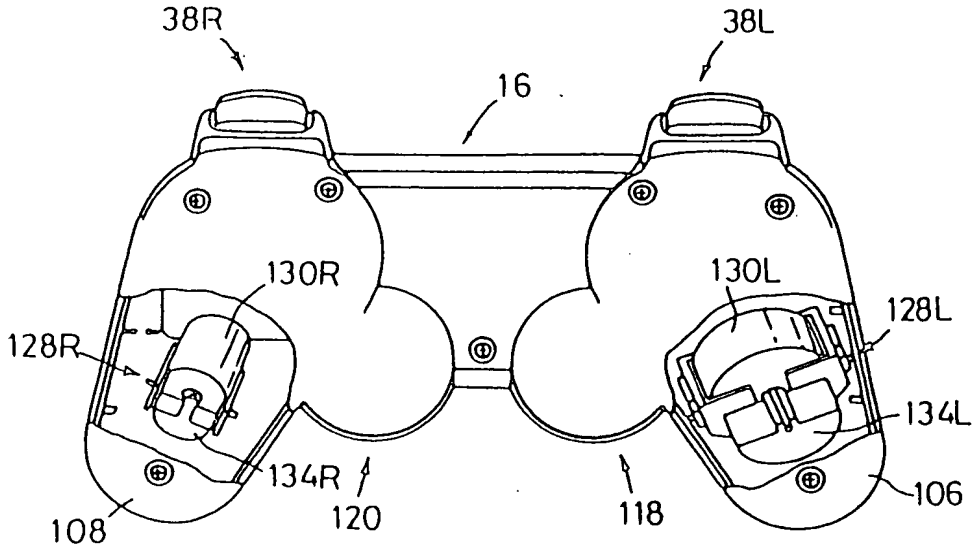
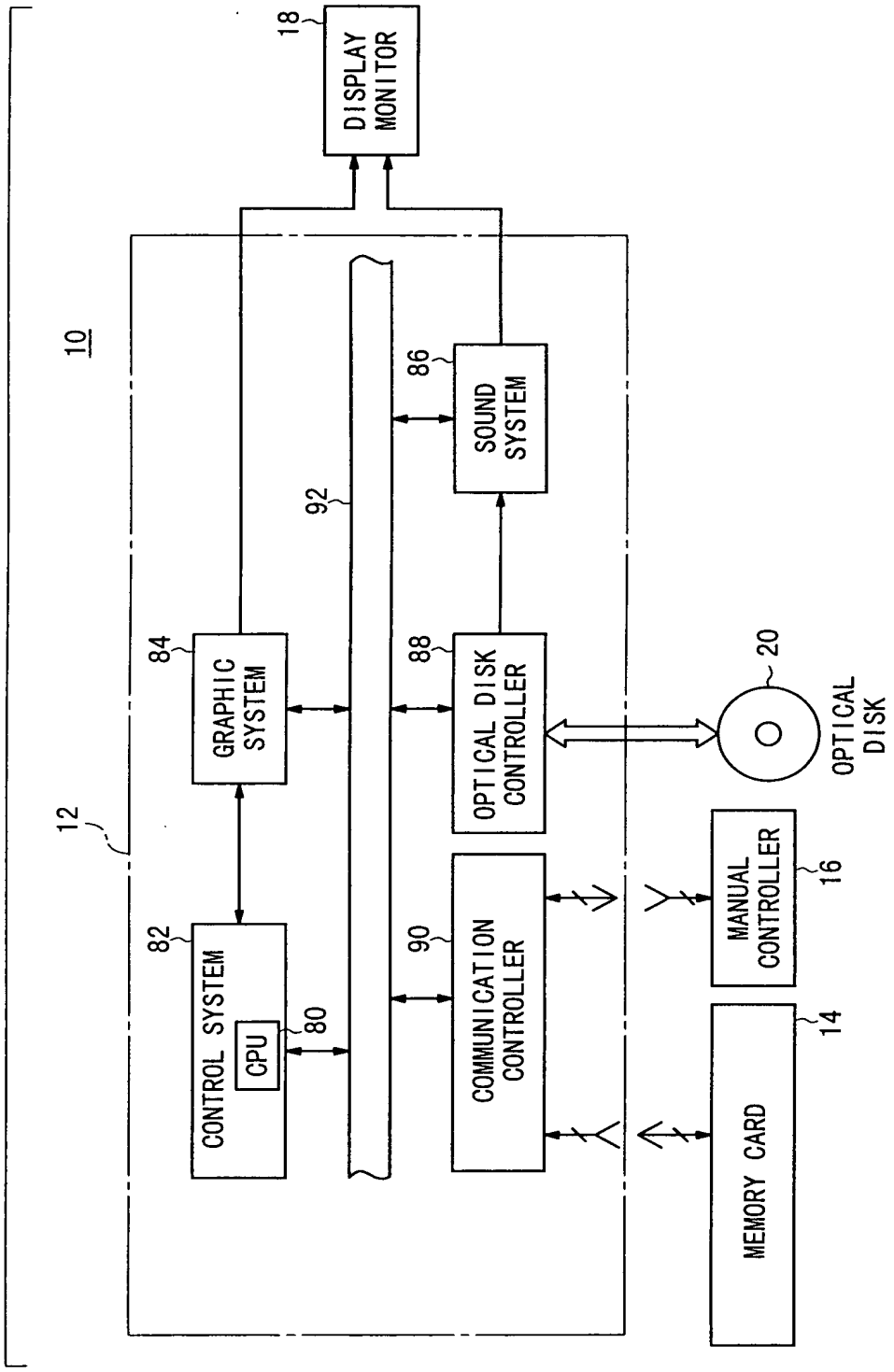


FIG. 6


10
12
18
DISPLAY MONITOR
86
SOUND SYSTEM
92
84
GRAPHIC SYSTEM
88
OPTICAL DISK CONTROLLER
20
OPTICAL DISK
82
CONTROL SYSTEM
CPU
80
90
COMMUNICATION CONTROLLER
MANUAL CONTROLLER
16
MEMORY CARD
14

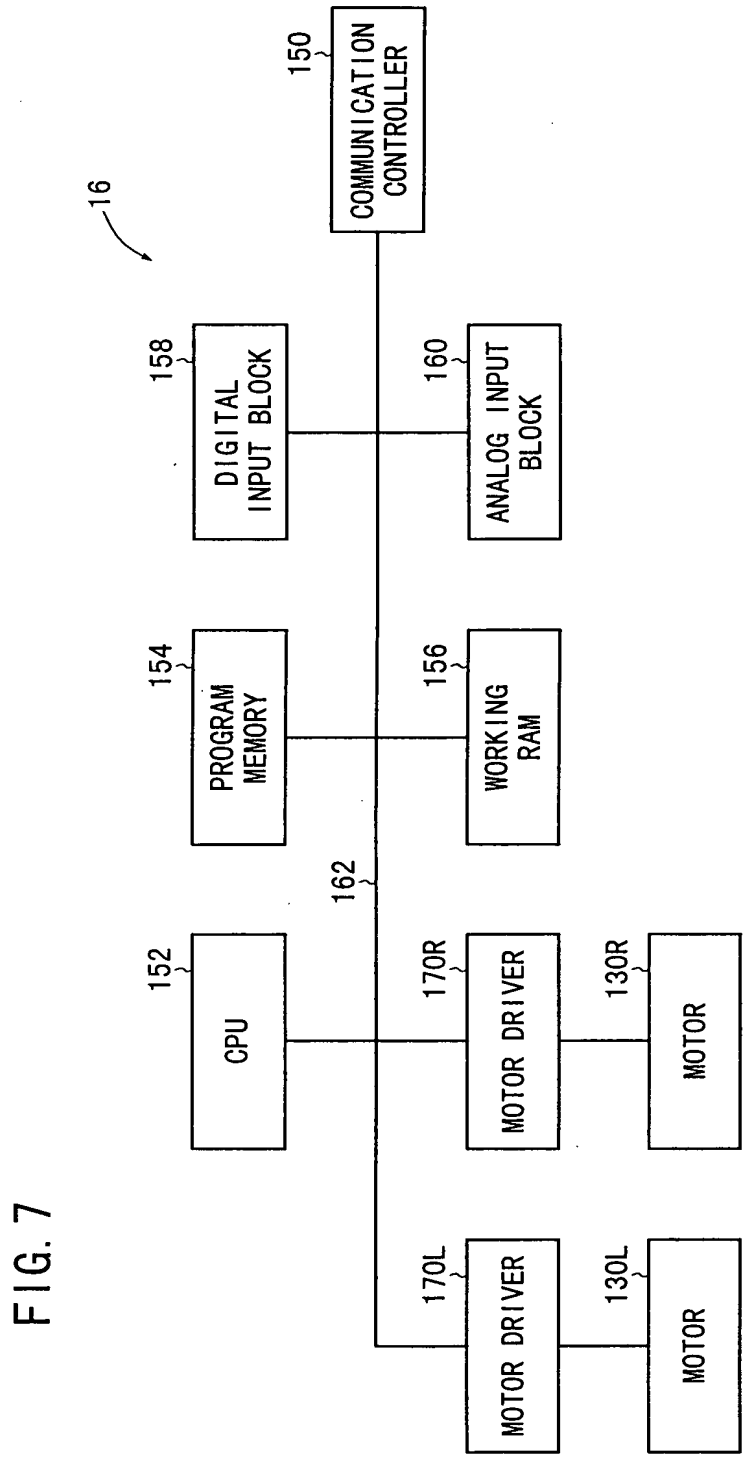

16
150
COMMUNICATION CONTROLLER
158
DIGITAL INPUT BLOCK
160
ANALOG INPUT BLOCK
154
PROGRAM MEMORY
156
WORKING RAM
162
152
CPU
170R
MOTOR DRIVER
130R
MOTOR
170L
MOTOR DRIVER
130L
MOTOR

FIG. 7

FIG. 8

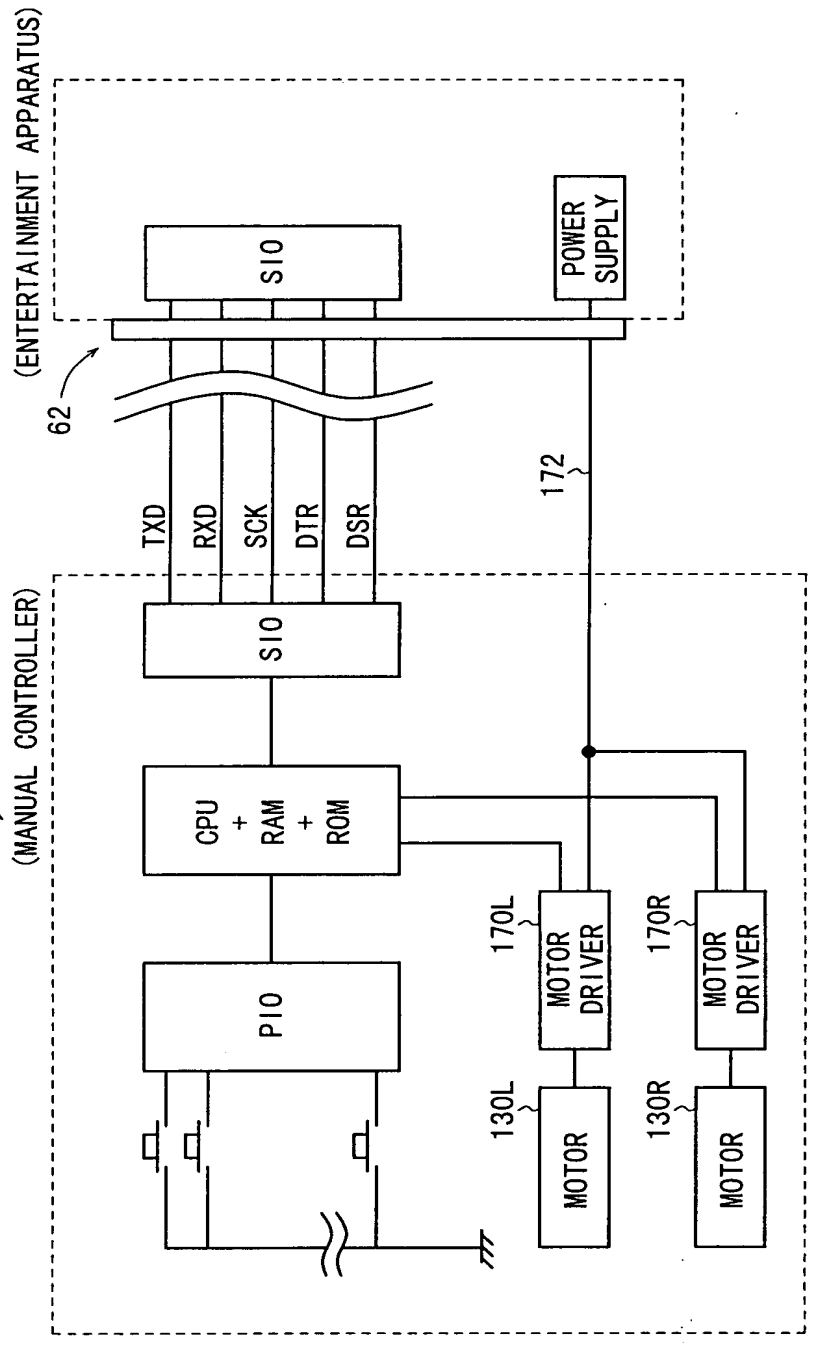

12
(ENTERTAINMENT APPARATUS)
SIO
POWER SUPPLY
62
TXD
RXD
SCK
DTR
DSR
172
SIO
16
(MANUAL CONTROLLER)
CPU + RAM + ROM
PIO
170L
MOTOR DRIVER
170R
MOTOR DRIVER
130L
MOTOR
130R
MOTOR

FIG. 9

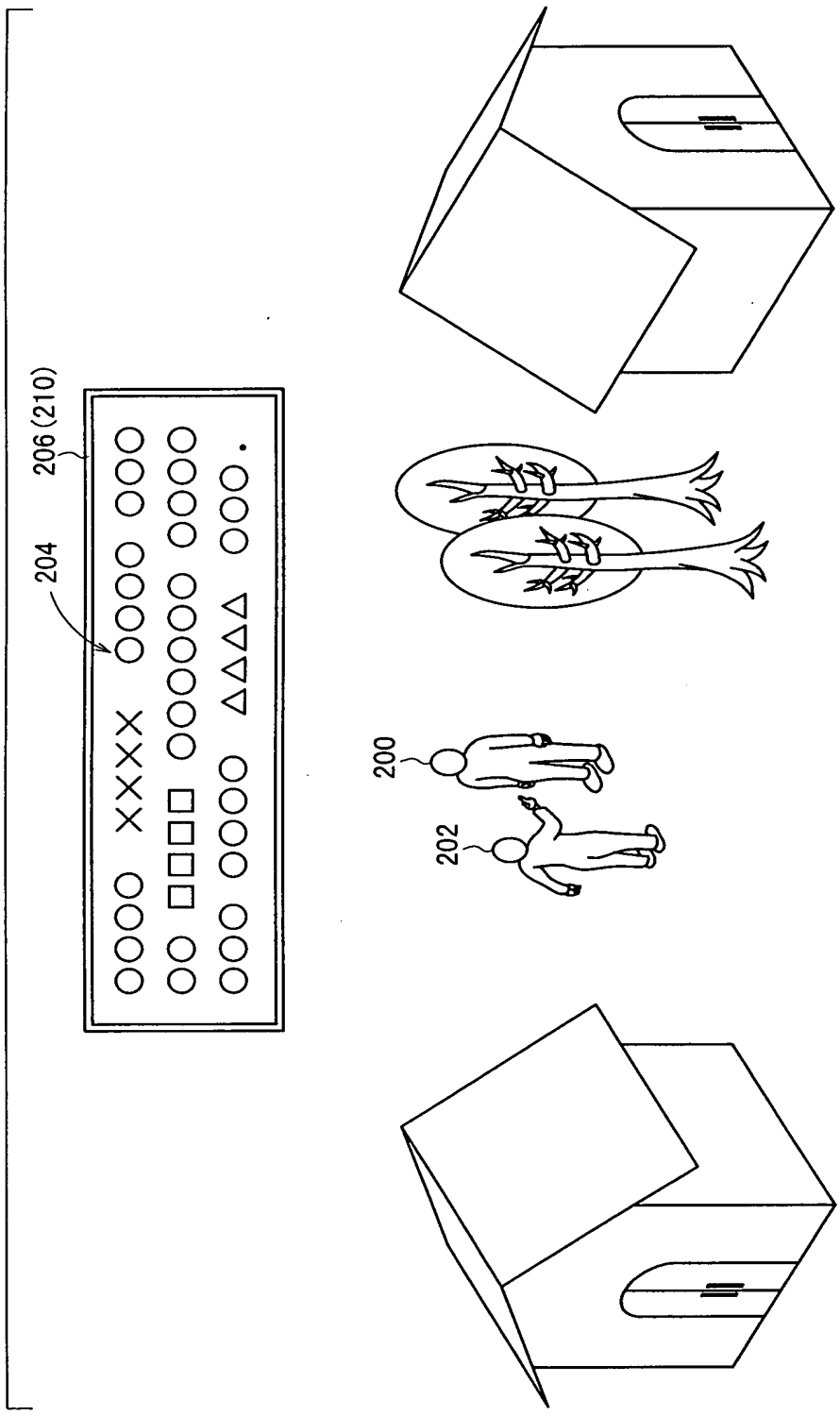


FIG. 10

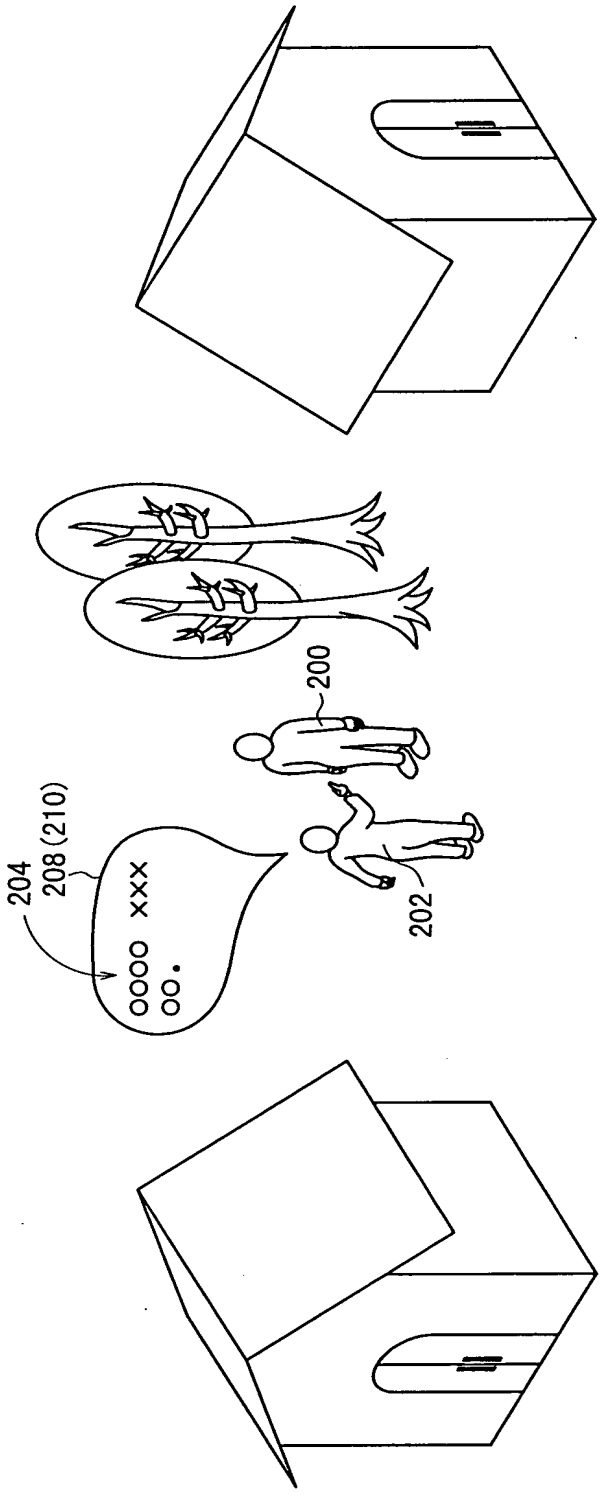


FIG. 11

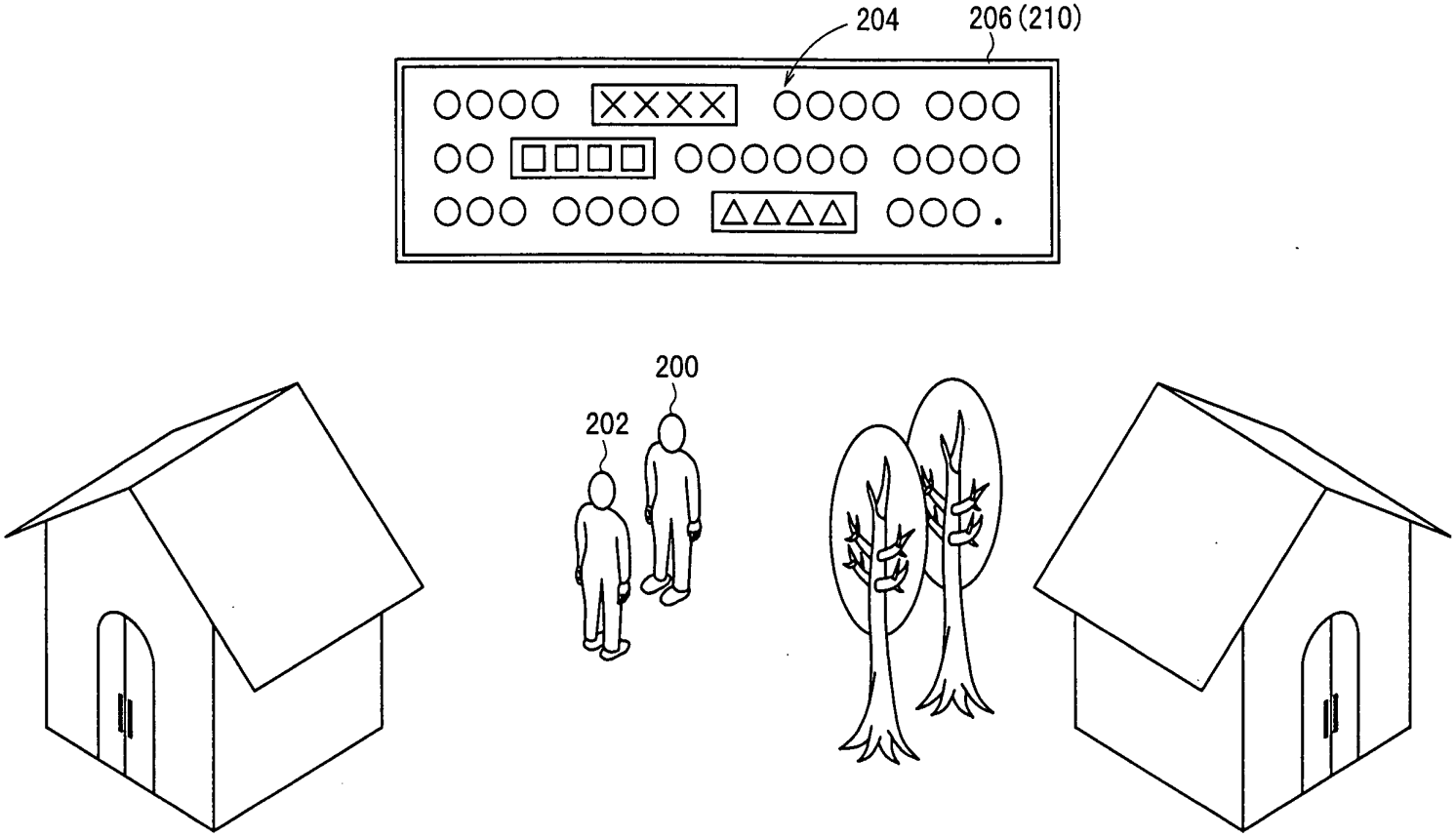

204
206 (210)
OOOO XXXX OOOO OOO
OO □□□□ OOOOOO OOOO
OOO OOOO △△△△ OOO.
200
202

FIG. 12

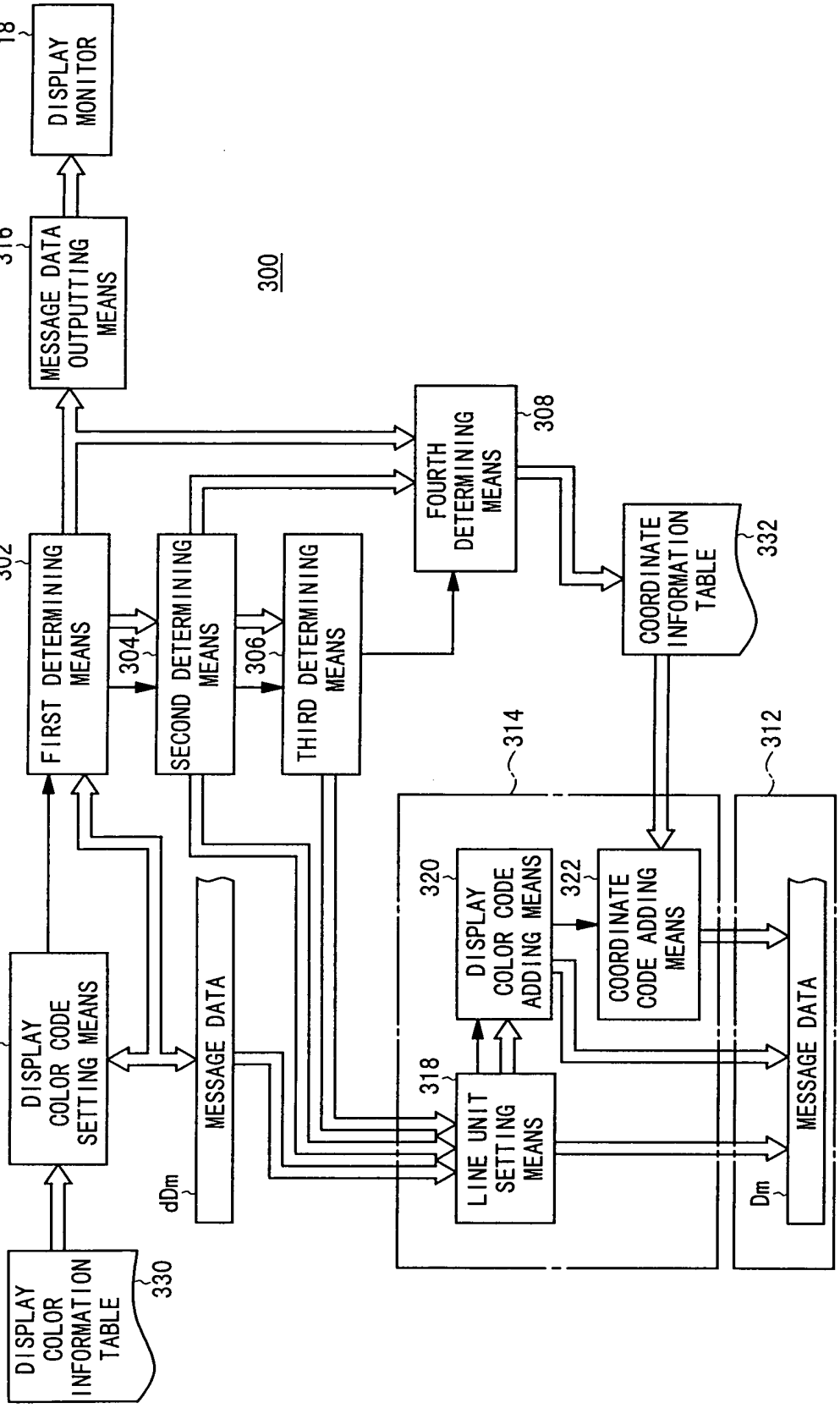

18
DISPLAY MONITOR
316
MESSAGE DATA OUTPUTTING MEANS
300
302
FIRST DETERMINING MEANS
304
SECOND DETERMINING MEANS
306
THIRD DETERMINING MEANS
308
FOURTH DETERMINING MEANS
332
COORDINATE INFORMATION TABLE
314
312
320
DISPLAY COLOR CODE ADDING MEANS
322
COORDINATE CODE ADDING MEANS
310
DISPLAY COLOR CODE SETTING MEANS
MESSAGE DATA
dDm
318
LINE UNIT SETTING MEANS
Dm
MESSAGE DATA
330
DISPLAY COLOR INFORMATION TABLE

FIG. 13A

FIG. 13B

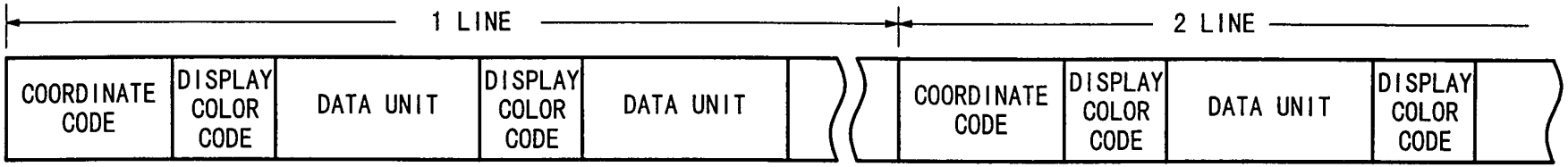


FIG. 14

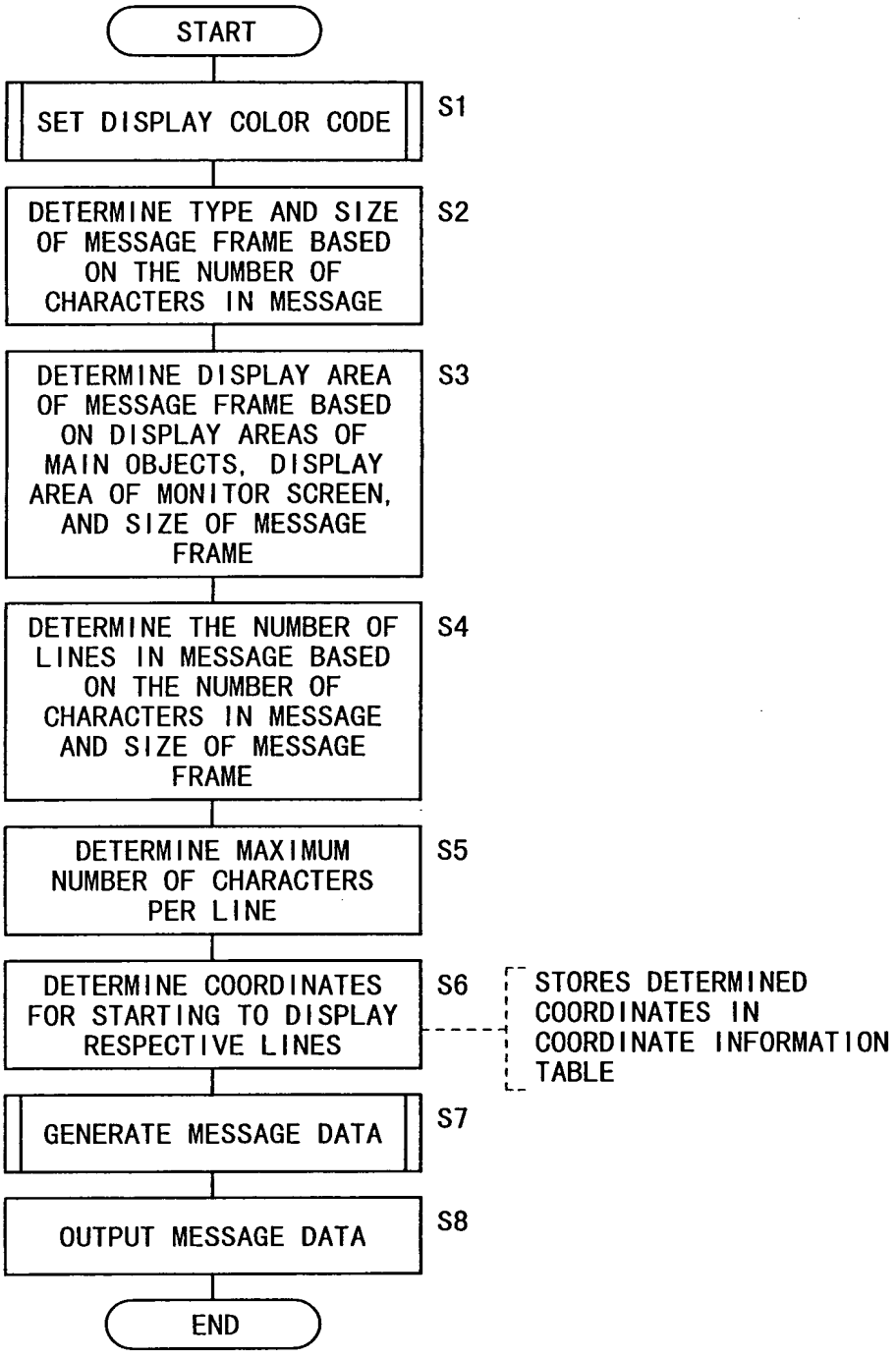

START
SET DISPLAY COLOR CODE
S1
DETERMINE TYPE AND SIZE OF MESSAGE FRAME BASED ON THE NUMBER OF CHARACTERS IN MESSAGE
S2
DETERMINE DISPLAY AREA OF MESSAGE FRAME BASED ON DISPLAY AREAS OF MAIN OBJECTS, DISPLAY AREA OF MONITOR SCREEN, AND SIZE OF MESSAGE FRAME
S3
DETERMINE THE NUMBER OF LINES IN MESSAGE BASED ON THE NUMBER OF CHARACTERS IN MESSAGE AND SIZE OF MESSAGE FRAME
S4
DETERMINE MAXIMUM NUMBER OF CHARACTERS PER LINE
S5
DETERMINE COORDINATES FOR STARTING TO DISPLAY RESPECTIVE LINES
S6
STORES DETERMINED COORDINATES IN COORDINATE INFORMATION TABLE
GENERATE MESSAGE DATA
S7
OUTPUT MESSAGE DATA
S8
END

FIG. 15

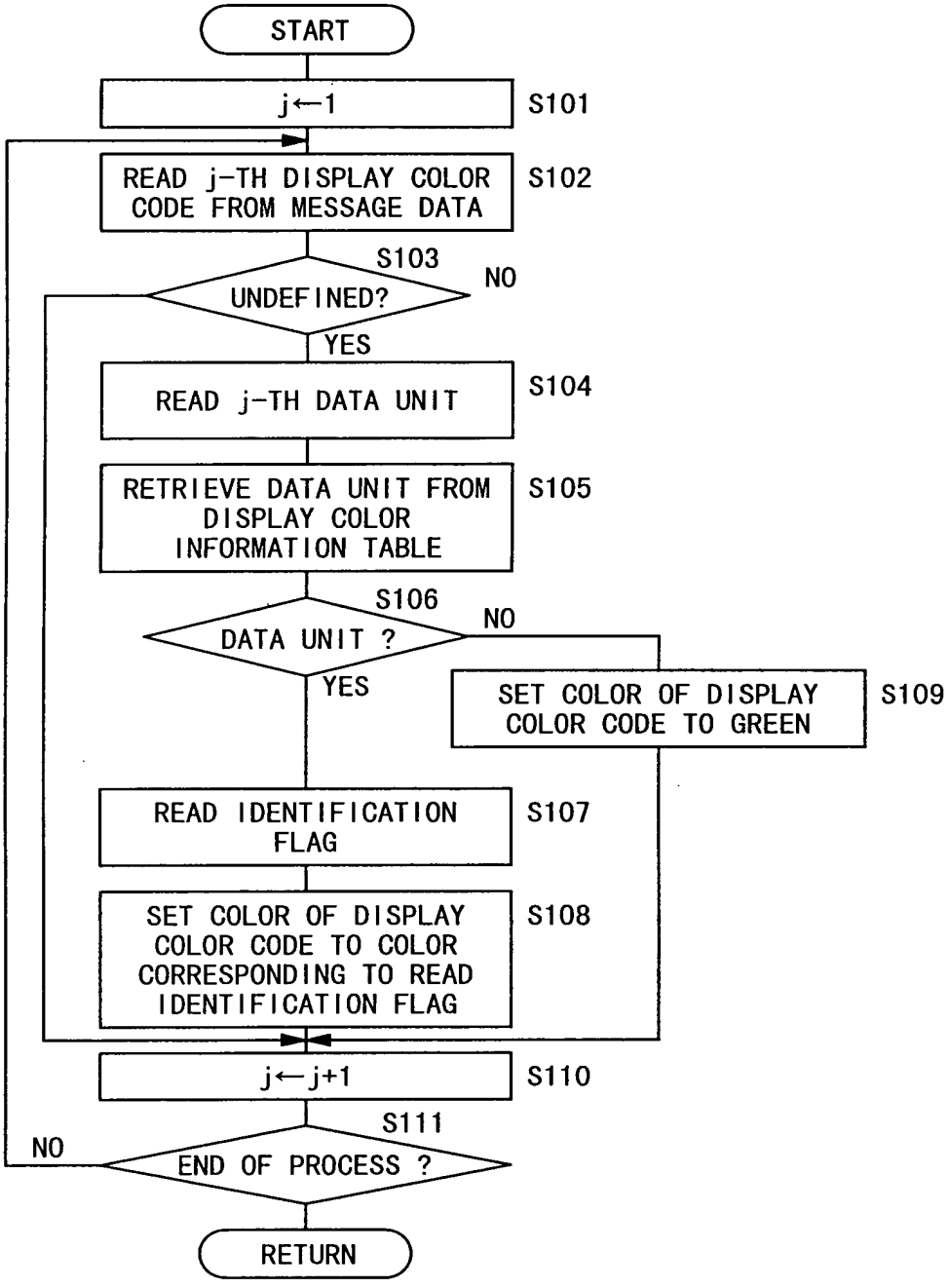
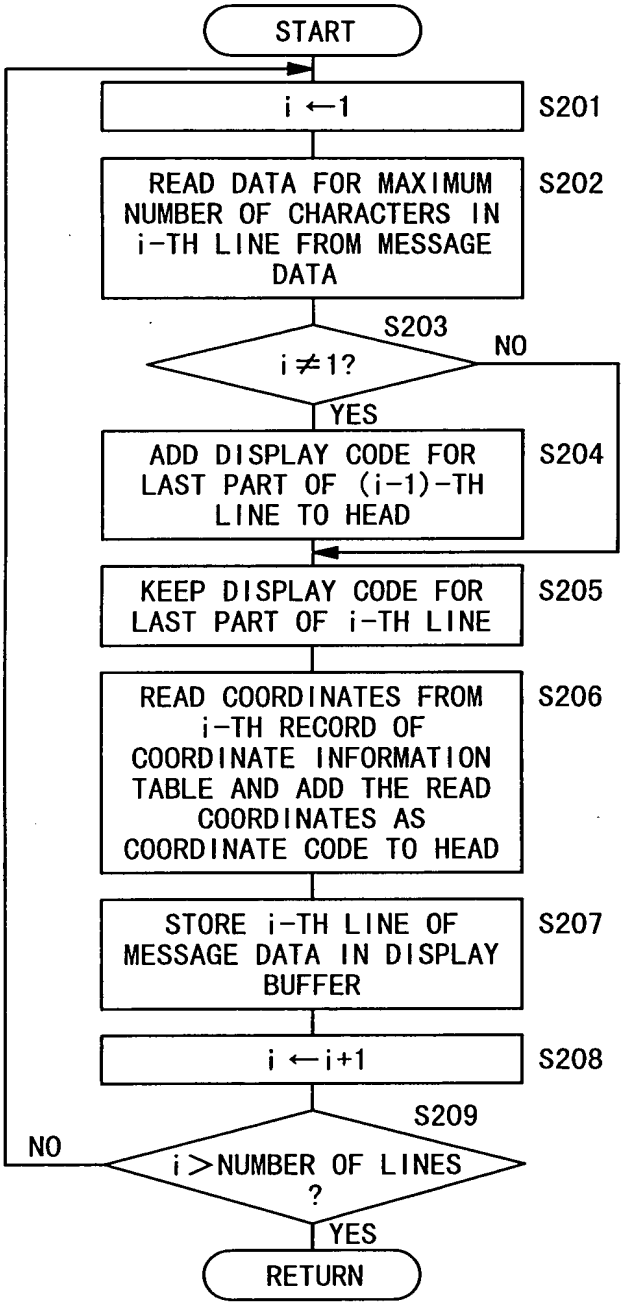

START
j←1
S101
READ j-TH DISPLAY COLOR CODE FROM MESSAGE DATA
S102
S103
UNDEFINED?
NO
YES
READ j-TH DATA UNIT
S104
RETRIEVE DATA UNIT FROM DISPLAY COLOR INFORMATION TABLE
S105
S106
DATA UNIT ?
NO
YES
SET COLOR OF DISPLAY COLOR CODE TO GREEN
S109
READ IDENTIFICATION FLAG
S107
SET COLOR OF DISPLAY COLOR CODE TO COLOR CORRESPONDING TO READ IDENTIFICATION FLAG
S108
j←j+1
S110
S111
NO
END OF PROCESS ?
RETURN

FIG. 16

DISPLAY COLOR INFORMATION TABLE (330)

| DATA UNIT | IDENTIFICATION FLAG | | | | | |
|---|---|---|---|---|---|---|
| | PERSON'S NAME UNIT | | PLACE'S NAME UNIT | | MONSTER'S NAME UNIT | |
| ××××| 1 | 0 | 0 | 0 | 0 | 0 |
| ××××| 0 | 1 | 0 | 0 | 0 | 0 |
| □□□□ | 0 | 0 | 1 | 0 | 0 | 0 |
| □□□□ | 0 | 0 | 0 | 1 | 0 | 0 |
| △△△△ | 0 | 0 | 0 | 0 | 1 | 0 |
| △△△△ | 0 | 0 | 0 | 0 | 0 | 1 |
| | | | | | | |
| | | | | | | |

FIG. 17


START
i ←1
S201
READ DATA FOR MAXIMUM NUMBER OF CHARACTERS IN i-TH LINE FROM MESSAGE DATA
S202
S203
i≠1?
NO
YES
ADD DISPLAY CODE FOR LAST PART OF (i-1)-TH LINE TO HEAD
S204
KEEP DISPLAY CODE FOR LAST PART OF i-TH LINE
S205
READ COORDINATES FROM i-TH RECORD OF COORDINATE INFORMATION TABLE AND ADD THE READ COORDINATES AS COORDINATE CODE TO HEAD
S206
STORE i-TH LINE OF MESSAGE DATA IN DISPLAY BUFFER
S207
i ←i+1
S208
S209
NO
i >NUMBER OF LINES ?
YES
RETURN